APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,186	01/22/2002	Geoffrey Mattson	569-1002	4459

			EXAMINER
34845	7590	08/23/2005	BATES, KEVIN T

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ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	10/054,186	MATTSON, GEOFFREY
	Examiner	Art Unit	
	Kevin Bates	2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 August 2005*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *4-24-02*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to a communication made on January 22, 2002.

The Foreign Priority Documents were received on April 24, 2002.

The Information Disclosure Statement was received on April 24, 2002 and has

been considered.

The Power of Attorney was received on October 7, 2004.

Claims 1-26 are pending in this application.

Claim Objection
~~Double Patenting~~

Claim 17 is objected to under 37 CFR 1.75 as being a substantial duplicate of

claim 14. When two claims in an application are duplicates or else are so close in

content that they both cover the same thing, despite a slight difference in wording, it is

proper after allowing one claim to object to the other as being a substantial duplicate of

the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee

(6904018) in view of Chuah (9408011).

Regarding claims 1 and 14, Lee teaches a method of providing backup

resources for a primary label switched path (LSP) in a label switching network (Column

2, lines 64 – 67), the primary LSP having at least a portion for transmitting data packets

containing a label from a first label switching node to a second label switching node

(Column 1, lines 21 – 25), said portion including at least one intermediate label

switching node between the first and second nodes (Figure 3, elements LSR2-15), the

method comprising the steps of: defining at least one backup LSP starting from the first

node and merged with the primary LSP at the second node (Column 3, lines 43 – 46);

determining a transformation of the label of a packet transmitted along said portion of

the primary LSP from an output of the first node to an input of the second node (Column

1, lines 27 – 31); configuring the first node to switch a packet to the backup LSP upon

detection of a failure in said portion of the primary LSP (Column 4, lines 50 – 61); and

configuring at least one node of the backup LSP to process the label of any packet

transmitted along the backup LSP so as to apply said transformation (Figure 4, "looked

back traffic flow after failure).

Lee does not explicitly indicate that the packet has a label stack on which to push

and pull labels from, just swaping the values of labels (Column 1, lines 27 – 31).

Chuah teaches a label routing system that includes having a label stack located

in each packet being communicated in the system (Column 6, line 61 – Column 7, line

14).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use Chuah's teaching of a label stack in Lee's system in order to

allow the swapping of labels happen based on the pulling and pushing of labels onto the

stack already located in the label stack (Column 7, lines 15 – 19) not having to search a label table (Column 1, lines 27 – 31).

Regarding claims 2 and 15, Lee teaches a method as claimed in claims 1 and 14 respectively, wherein the node of the backup LSP configured to apply the transformation is the first node, said transformation being applied prior to pushing a label of the backup LSP (Column 2, lines 13 – 18).

Regarding claims 3 and 16, Lee teaches a method as claimed in claims 1 and 14 respectively, wherein the node of the backup LSP configured to apply the transformation is the second node (Figure 3, LSR8, wherein LSR8 is show to allow the transformation of the label stack to send the packets along a backup LSP).

Regarding claims 4 and 17, Lee teaches a method as claimed in claims 1 and 14 respectively wherein the step of determining the transformation of the label stack comprises transmitting messages of a signaling protocol between the nodes of said portion of the primary LSP (Column 4, lines 42 – 56), including indications of label stack manipulations performed by said nodes on packets transmitted along the primary LSP, said indications being processed at one of the first and second nodes for deriving said transformation (Column 4, lines 47 – 49).

Regarding claims 5 and 18, Lee teaches a method as claimed in claims 1 and 14 respectively, wherein the step of determining the transformation of the label stack comprises transmitting at least one sample packet from the first node to the second node along said portion of the primary LSP (Column 4, lines 42 – 56).

Regarding claims 6 and 19, Lee teaches a method as claimed in claims 1 and 14 respectively, wherein the first node is configured to switch a packet intended for the primary LSP to the backup LSP upon detection of a failure in said portion of the primary LSP up to the intermediate node situated next to the first node (Column 4, lines 50 – 61).

Regarding claims 7 and 20, Lee teaches a method as claimed in claims 1 and 14 respectively, further comprising the steps of: defining at least one switchback LSP from an intermediate node of the primary LSP to the first node (Column 4, lines 16 – 22); and configuring said intermediate node to switch a packet to the switchback LSP upon detection of a failure in said portion of the primary LSP downstream of said intermediate node and up to the node situated next to said intermediate node (Column 4, lines 16 – 22).

Regarding claim 8 and 21, Lee teaches a method as claimed in claims 7 and 20, respectively, further comprising the step of configuring the first node to switch to the backup LSP any packet received on the switchback LSP (Figure 3, the looped back traffic flow starting at node LSR 6 and travels to first node LSR 9 and 1, and travels along the backup LSP).

Regarding claims 9 and 22, Lee teaches a method as claimed in claims 8 and 20, further comprising the steps of: determining a second transformation of the label stack as the inverse of a transformation of the label stack of a packet transmitted along said portion of the primary LSP from the output of the first node to said intermediate node; and configuring at least one node of the switchback LSP to process the label

stack of any packet transmitted from said intermediate node along the switchback LSP

so as to apply said second transformation (Figure 3, for the immediate nodes changing

the labels to push the traffic flow back to the ingress nodes and down the back up LSP).

Regarding claims 10 and 23, Lee teaches a method as claimed in claims 9 and

22, wherein the node of the switchback LSP configured to apply the second

transformation is said intermediate node, the second transformation being applied prior

to pushing a label of the switchback LSP (Figure 3, for the immediate nodes changing

the labels to push the traffic flow back to the ingress nodes and down the back up LSP).

Regarding claims 11 and 24, Lee teaches a method as claimed in claims 10

and 23, wherein the primary LSP has at least one additional intermediate node between

the first node and said intermediate node, wherein the switchback LSP is defined to

comprise the nodes of the primary LSP, in a reverse direction, from said intermediate

node to the first node (Figure 3, for the immediate nodes changing the labels to push

the traffic flow back to the ingress nodes and down the back up LSP).

Regarding claims 12 and 25, Lee teaches a method as claimed in claims 11

and 24, further comprising the step of configuring said additional intermediate node to

switch a packet to the switchback LSP upon detection of a failure in said portion of the

primary LSP downstream of said additional intermediate node and up to the node

situated next to said additional intermediate node (Column 4, lines 42 – 56).

Regarding claims 13 and 26, Lee discloses a method as claimed in claims 12

and 25, further comprising the steps of: determining a third transformation of the label

stack as the inverse of a transformation of the label stack of a packet transmitted along

said portion of the primary LSP from the output of the first node to said additional

intermediate node; and configuring said additional intermediate node to process the

label stack of any packet that it switches to the switchback LSP so as to apply said

inverse transformation prior to pushing a label of the switchback LSP (Figure 3, for the

immediate nodes each having to change the labels to push the traffic flow back to the

ingress nodes and down the back up LSP).

Prior Art

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

U. S. Patent No. 6891793 issued to Suzuki, because it discloses a label

switching system that includes a backup route for fault recovery.

U. S. Patent No. 6657951 issued to Carroll, because it discloses backup VLANs

incase of link failure.

U. S. Patent No. 6618371 issued to Cao, because it discloses redundant links for

failure recovery.

U. S. Patent No. 6256395 issued to Callon, because it discloses backup LSPs.

U. S. Patent No. 6301223 issued to Hrastar, because it discloses a network that

handles link failure through rerouting.

U. S. Patent No. 5173689 issued to Kusano, because it discloses backup tunnels

for fault recovery.

U. S. Patent Application Publication US 2003/0081589 filed by Marian, because it

discloses redundant routers in a label switching system with label stacks.

U. S. Patent No. 6778492 issued to Charny, because it discloses rerouting a label switched path.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Bates whose telephone number is (571) 272-3980. The examiner can normally be reached on 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Saleh Najjar can be reached on (571) 272-4006. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KB

KB
August 17, 2005

BHARAT BAROT
PRIMARY EXAMINER